Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Wireless Telecommunications Bureau and	)	WT Docket No. 24-240
Office of Engineering and Technology Seek	)	
Comment on NextNav Petition for Rulemaking	)	RM-11989
	)	

COMMENTS OF E-ZPASS GROUP

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The E-ZPass Interagency Group ("E-ZPass Group" or "E-ZPass") submits these comments in response to the Federal Communications Commission ("FCC" or "Commission") *Public Notice* on the NextNav Inc. ("NextNav") Petition for Rulemaking to reconfigure the 902-928 MHz band ("Lower 900 MHz band").[1] NextNav's proposal would advance its business plan to deploy full-power 5G wireless broadband in the band and enable a positioning, navigation, and timing ("PNT") capability for backup GPS, but at the expense of extensive, widespread operations in the Lower 900 MHz band. For E-ZPass, the NextNav plan would overwhelm our operations in the band, which share equal license status with NextNav (as well as our more limited unlicensed use in the band); severely impede electronic toll collecting; and cause massive disruption to millions of E-ZPass users on the nation's highways and infrastructure projects that benefit from toll revenue.[2]

E-ZPass respectfully requests that the Commission deny the NextNav Petition.

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[1] *Wireless Telecommunications Bureau and Office of Engineering and Technology Seek Comment on NextNav Petition for Rulemaking*, Public Notice, DA 24-776 (rel. Aug. 6, 2024) ("*Public Notice*"); *see* Petition of NextNav for Rulemaking, WT Docket No. 24-240 (filed Apr. 16, 2024) ("NextNav Petition"); Letter from Robert Lantz, General Counsel, NextNav, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 24-240 (filed June 7, 2024) ("NextNav Petition Supplement").

[2] E-ZPass is aware that stakeholders in support of tolling agencies around the country are similarly concerned and supports the comments being filed by International Bridge, Tunnel & Turnpike Association and the 6C Coalition.

I. INTRODUCTION AND SUMMARY.

FCC Commissioners and staff are no doubt familiar with E-ZPass and its electronic toll collection ("ETC") system that allows drivers traveling along thousands of U.S. roadway miles to pay their toll automatically from financial accounts without having to sit in traffic congestion at a toll booth plaza. By placing a small electronic transponder on a windshield of a vehicle, that vehicle can pass through a toll lane equipped with a "reader" that collects and transmits customer account status electronically to the appropriate toll agency and the correct toll is charged to or credited against that customer's account. Increasingly, ETC is moving to "open road tolling," tolling without the need for slowing down so tolling transactions can occur at highway speeds.

The benefits of E-ZPass and ETCs generally are significant: consumers, enterprises, and transportation companies avoid traffic congestion, backup and delay; toll agencies accurately collect revenue that advances the nation's infrastructure; and the environment avoids the vehicle idling, polluting, and fuel consumption that is traditionally associated with traffic congestion at toll booths.

Perhaps less known is the critical role that non-multilateration Location and Monitoring Service ("non-M-LMS") licenses in the Lower 900 MHz band play in E-ZPass's success. E-ZPass is a coalition of toll road agencies who hold non-M-LMS licenses used to deploy the ETC solutions. Specifically, toll road agencies use the non-M-LMS licenses for short-range communications between tolling facility readers and transponders mounted on vehicles to enable a seamless, automated, and fast transaction, rather than a manual one. The Lower 900 MHz band is a shared band, with mostly separate M-LMS and non-M-LMS sub-bands, and equal license status for M-LMS and non-M-LMS licenses. NextNav seeks to change the sharing rules to facilitate high-powered operations in a restructured Lower 900 MHz band.

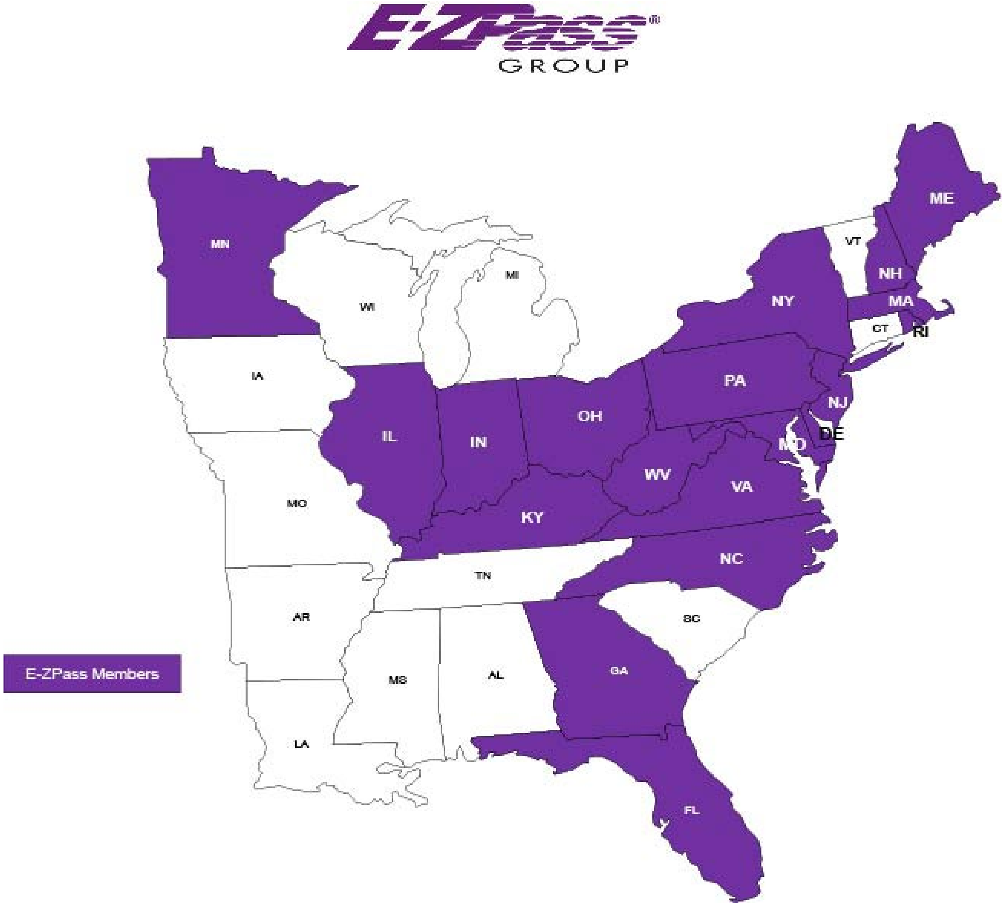
NextNav's proposal would upend the spectrum environment in the Lower 900 MHz band in ways that risk irreparably disrupting the automated electronic tolling systems that millions of Americans rely on. The NextNav proposal risks significant harmful interference and disruption to E-ZPass systems – to millions of users, billions of transactions, and revenue that is critical for transportation infrastructure investment and operations. And the proposal, with its plans for ubiquitous wireless broadband operations in the band, would prevent important enhancements such as the ability to add congestion pricing zones in urban areas far from any highway toll roads. The Commission should move no farther towards the rulemaking NextNav requests.

II. E-ZPASS RELIES ON THE LOWER 900 MHz BAND TO POWER NEARLY 60 MILLION TRANSPONDERS AND ALMOST 5 BILLION TRANSACTIONS A YEAR.

In 1990, several toll agencies formed an alliance known as the E-ZPass Interagency Group to deploy a regionally compatible, non-interfering ETC system that would meet the divergent needs of its participating agencies and provide regional mobility and convenience to their customers. Today, using the Lower 900 MHz band, E-ZPass is the largest, most successful interoperable toll collection program anywhere in the world:

- E-ZPass is comprised of toll agencies and companies that operate in **20 states** in the Eastern, Midwestern, and Southern portions of the United States;
- E-ZPass services more than **35 million accounts**;
- E-ZPass customers use nearly **59 million transponders**;
- E-ZPass processes over **4 billion transactions** annually; and
- E-Z Pass transactions generate nearly **$14 billion in revenue** a year.

Figure 1: Map of E-ZPass Members



More broadly, there are about 120 million tolling transponders across the United States and tens of thousands of tolling points on U.S. roads, according to the International Bridge, Tunnel & Turnpike Association.

The benefits that ETC brings in terms of reducing traffic delay and congestion are incalculable, but certain data points help to quantify just how valuable ETC's role is in American life. For example, an early study of E-ZPass found that its use on the New Jersey Turnpike alone reduced delay for all vehicles by 85 percent and saved an estimated 1.2 million gallons of fuel each year.[3] And a more recent study of Open Road Tolling in Massachusetts found significant environmental and energy efficiency benefits, including reductions of vehicle's particulate matter by up to 61 percent and reductions in energy consumption by up to 28 percent.[4]

E-ZPass is innovating and expanding as well. In addition to electronic tolling on highways, governments are exploring using E-ZPass to facilitate congestion pricing in central business districts.[5] As a result, E-ZPass anticipates a significant increase in sites using the non-M-LMS technology in coming years, and not just on highways. In addition, today E-ZPass has wraparound products such as E-ZPass Plus, which makes paying for parking at participating airports and garages easier. And E-ZPass-on-the-GO is a convenient package that contains a prepaid transponder ready for use that is sold at convenient locations such as participating local convenience stores, rest areas, DMVs and available online.[6]

Modern E-ZPass is incorporating multiple protocols to accommodate interoperability across toll agencies nationwide and better enable Americans to move around the country easily and swiftly. This is, in part, a response to Congress's directive that all toll facilities on the

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[3] *Implementation of the E-ZPass electronic toll collection system on the New Jersey Turnpike reduced delay for all vehicles by 85 percent saving approximately 2.1 million hours per year*, Intelligent Transportation Systems Joint Program Office, U.S. Department of Transportation (Sept. 7, 2001), https://www.itskrs.its.dot.gov/2007-b00421.

[4] *Study of Electronic Open Road Tolling Application near Boston Finds Reductions of Vehicle' Particulate Matter by up to 61 Percent and Energy Consumption by up to 28 percent*, Intelligent Transportation Systems Joint Program Office, U.S. Department. of Transportation (May 26, 2023), https://www.itskrs.its.dot.gov/2023-b01750.

[5] *See, e.g.*, MTA, Tolling, Congestion Relief Zone Toll Information, https://congestionreliefzone.mta.info/tolling (last visited Sept. 3, 2024).

[6] E-ZPass Group, About Us, https://www.e-zpassiag.com/about-us/overview (last visited Sept 3, 2024); *see also* Press Release, PayByCar, *E-ZPass Group and PayByCar Announce Expansion of Non-Toll Mobile Payment Program*, July 30, 2024, https://www.e-zpassiag.com/images/frontpage/Press_Releases/IAG_and_PayByCar_Driven_by_E-ZPass_2024_Press_Release.pdf (announcing the expansion of the "Driven by E-ZPass"™ non-toll payment program across the 19-state E-ZPass Group network).

Federal-aid highways provide for the interoperability of ETC programs.[7] E-ZPass and others are working to integrate multiple technologies into tolling. These protocols include time division multiplexing ("TDM"), International Organization for Standardization 18000-63 ("6C"), and Super eGo® ("SeGo").[8]

In the broader electronic tolling ecosystem, other protocols include Title 21, American Trucking Association protocols, and the American Society for Testing and Materials ASTMv6 protocol ("ASTMv6"). ASTMv6 is also key to commercial vehicle credentialing and clearance on U.S. highways. Large commercial vehicles use the Lower 900 MHz band for integrated weigh station bypass and toll payment services. These services operate in a similar fashion to consumer tolling systems, but use ASTMv6 standard equipment. Commercial vehicles from qualified fleets are electronically pre-screened for compliance with federal and state safety and credential requirements. Pre-cleared vehicles can continue at highway speeds without having to stop, thus saving time, fuel, and money. This helps create greater efficiencies for shippers and supports improved safety for all highway users.

The combination of protocols to support nationwide interoperability increases sensitivities in the systems that E-ZPass and other tolling agencies are deploying because, as described further below, they must cycle through multiple protocols over very short distances and timeframes while traffic is flowing at highway speeds. A high-powered, ubiquitous, and adjacent band system as NextNav proposes would degrade electronic operations and foreclose future development.

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[7] Moving Ahead for Progress in the 21st Century Act, Pub. L. No. 112-141 (2012).

[8] *See, e.g.*, Active TDM over-air specification for Electronic Toll Communications", TS 360100-034, owned and published By Kapsch TrafficCom; ISO 18000-63 ("6C") protocol as incorporated in "AVI Standard Requirements and Guidance Document" published by the 6C Coalition; Protocol Specification SeGo, owned and published by Transcore.

III. NEXTNAV VIEWS THE LOWER 900 MHz BAND AS "UNDERUTILIZED" AND DOES NOT ACCOUNT FOR THE DISRUPTION IT WOULD CAUSE TO MILLIONS OF USERS OF THE BAND.

The NextNav proposal is an ambitious business plan, but it does not seriously address how much it would upend operations in the Lower 900 MHz band or offer any meaningful assessment of how it intends to address the inevitable disruption to millions of users of the band. Indeed, NextNav characterizes the Lower 900 MHz band as "underutilized"[9] and appears undisturbed by the consequences of its proposal on the millions of Americans that use the Lower 900 MHz band.

To review the proposal, on the regulatory front NextNav would have the FCC: (i) reconfigure the Lower 900 MHz band and convert the three sub-bands of M-LMS spectrum that today total 14 megahertz into two sub-bands totaling 15 megahertz: a five-megahertz uplink at 902-907 MHz and a ten-megahertz downlink at 918-928 MHz; (ii) convert the M-LMS service and technical rules to the Commission's Part 27 commercial wireless flexible-use rules for mobile and fixed wireless broadband, "including full macro power limits and standard out-of-band-emission limits"; and (iii) grant NextNav a nationwide license on the M-LMS spectrum "including spectrum sitting fallow in FCC inventory" conditioned on a backup GPS offering.[10]

On the commercial side, NextNav explains it would seek a partnership with 5G mobile network operators, who would integrate NextNav's 900 MHz spectrum into their networks. NextNav would deliver its backup GPS solution over the 5G network, and anticipates that its backup GPS capabilities would be incorporated into everyday mobile device chipsets.[11]

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[9] *See, e.g.*, NextNav Petition at 17.

[10] *Id.* at 29.

[11] *Id*. at 22, 26.

Putting aside whether stakeholders across the wireless ecosystem would embrace NextNav's plans and incorporate NextNav's business strategy into their own, there is the fundamental question of what impact the NextNav proposal would have on the millions upon millions of users of the Lower 900 MHz band today.

NextNav pays little heed to the proposal's consequences. In the 41-page NextNav Petition, NextNav devotes *a single paragraph* to the impact to E-ZPass and other non-M-LMS licensees, stating that it "believes" co-existence is attainable.[12] It offers up that it is "completing technical analyses" on the "potential" impact of its proposal on non-M-LMS operations and mitigation measures that could include paying for retuning or relocation.[13] The NextNav Petition contains no evidence to suggest that NextNav has thought through how its proposal would affect the Lower 900 MHz ecosystem. The NextNav Petition proposes far more ambitious deployment into the band, which now features more sensitive ETC equipment.

What is clear is that the proposal would reduce non-M-LMS licensees' current access to 14 megahertz of Lower 900 MHz spectrum down to 11 megahertz, strip away unlicensed operations' protections against unacceptable interference from M-LMS, and enable full-power wireless broadband that would overwhelm current operations in the band with broad, expansive, and unrelenting interference that would seriously degrade E-ZPass, other ETC systems, and a multitude of other current uses of the Lower 900 MHz band.

NextNav initiated a dialogue with E-ZPass, and we have engaged with NextNav in an exchange to educate the company about ETC, including its technical characteristics, and the critical importance of the Lower 900 MHz band. E-ZPass remains deeply concerned about the changes NextNav proposes and to date, there is no evidence to suggest NextNav has any alternative to the severe disruption that its plan would cause to our nation's highways and its broader transportation network.

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[12] *Id*. at 31.

[13] *Id.*

IV. THE NEXTAV PLAN WOULD DEGRADE ELECTRONIC TOLLING AND CAUSE MASSIVE DISRUPTION TO USERS.

A. E-ZPass Calculates that NextNav's Proposal Would Generate Significant Harmful Interference.

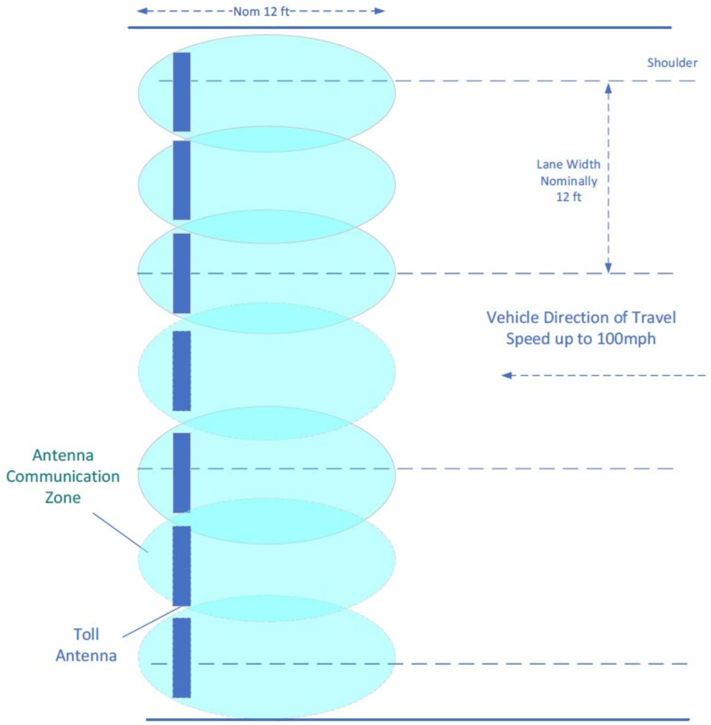
Based on the characteristics of the system NextNav proposes, E-ZPass anticipates severe and unmitigable harmful interference to the electronic tolling systems on America's highways as well as emerging congestion management tools in urban corridors and other innovations.

1. E-ZPass Systems Are Highly Sophisticated, Recording Near-Instantaneous Transactions at Highway Speeds Relying on Transponders Designed for Today's Lower 900 MHz Shared Operating Rules.

Tolling systems already intensively use the full non-M-LMS spectrum in the Lower 900 MHz band, with licenses across the full 12 megahertz contiguous 909.75 to 921.75 MHz segment, along with many licenses in the 902 to 904 MHz non-M-LMS sub-band, licensed as the LN Radio Service by the FCC. For example, toll plazas typically must use precise communications zones: multiple antennas suspended on gantries over roadways to communicate using multiple protocols with transponders on windshields inside vehicles travelling at highway speeds. Not only must the toll system identify the transponder, but it must also associate the transponder with the correct vehicle to be able to spot vehicles without an operating transponder so as to save an image of the vehicle license plate.

Typically, toll readers employ up to two antennas per lane for each lane within a multi-lane highway, as shown in Figure 2.

Figure 2: Typical Toll Lane Reader Installation



For some of the required protocols, each antenna uses its own frequency (which includes significant bandwidth emissions licensed for each antenna) in order to avoid self-interference between the multiple adjacent antennas installed in this type of configuration. Electronic tolling systems must have uninterrupted communications to be able to interrogate and identify transponders in vehicles as they travel at highway speeds. Yet, the window of opportunity to make such communications is extremely short. Typical communications windows are limited to about 80 milliseconds as the vehicle passes through the coverage area of the tolling system's antenna at highway speeds. Accordingly, the multi-protocol toll sites use a wide swath of the spectrum available for licensing, and not just a single discrete frequency.

Further, some tolling protocols, including TDM, utilize equipment that use fixed frequencies, and therefore, especially transponders, cannot be retuned to new frequencies (rather than replaced) to avoid the harmful interference. And, to avoid upheaval for consumers and governments alike, these fixed frequency transponders are required to have batteries with a ten-year life span if in the vehicle.[14]

2. NextNav's Plan Would Introduce Much Higher Power Levels, Higher Duty Cycles, and Substantial Interference While Reducing the Amount of Spectrum Available to Non-M-LMS Spectrum.

NextNav's vision for a wireless broadband offering in the Lower 900 MHz band is so different from the current M-LMS rules and uses that it will unavoidably lead to harmful interference that cannot be mitigated.

NextNav proposes power levels that are much higher than current M-LMS systems. The NextNav proposed power levels based on Part 27 rules would permit power levels up to 1000 Watts/MHz ERP (1640 Watts/MHz EIRP) in areas that are not rural, in contrast to the 30 Watt ERP (49.2 Watts EIRP) maximum power currently permitted for M-LMS operations (per Rule 90.357). This is *more than 300 times* the current power level; in areas the FCC identifies as rural, NextNav's proposal for higher power would be *more than 600 times* the current power level.[15]

NextNav's power levels would drastically alter the radiofrequency ("RF") environment in the Lower 900 MHz band, making large portions of the band unusable for systems currently operating in the band. Every NextNav-associated base station deployed using the higher power limits precludes unlicensed or non-M-LMS operations in the surrounding area, in essence turning the potential areas to be used by shared spectrum users into blackholes. Any instance where a base station is deployed near any type of roadway infrastructure, electronic tolling capabilities in that general area would be reduced or eliminated. Of course this would affect current tolling facilities, but it also forecloses the opportunity to use electronic tolling in new locations as well, whether additional highway installations or as congestion management in urban corridors far removed from highways but possibly – even likely – near desired locations for broadband base station locations.

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[14] Many non-M-LMS licensees use non-battery backscatter transponders, but within the E-ZPass group, active, battery powered transponders have been used for decades.

[15] NextNav Petition Supplement at A-1. NextNav proposes 1000 Watts/MHz ERP within a 10 MHz channel is a total of 10 kW ERP, which is 25.2 dB higher, or more than 300 times the power level currently allowed for M-LMS systems (30 W ERP) under Part 90. In areas with population density fewer than 100 persons per square mile, NextNav proposes a limit of 2000 Watts/MHz ERP, which is 28.2 dB higher, or more than 600 times the power level currently allowed under Part 90.

Further, high-powered signals in adjacent bands can overload the front end of both reader and transponder devices used for electronic tolling. Multi-protocol electronic toll equipment is designed to operate using non-M-LMS frequencies distributed across the Lower 900 MHz band to avoid self-interference in high-density tolling scenarios. But nearby high-power transmitters within the band would subject this system to overload interference. The current FCC rules prevent this type of overload problem because high-power transmitters are not permitted, but NextNav's proposal would endanger the functionality of ETC systems throughout the country. Base stations operating at up to 2000 Watts/MHz ERP could have deleterious effects on ETC systems located several kilometers away.

NextNav's plan would involve much higher duty cycles for wireless broadband operations than current M-LMS systems. E-ZPass anticipates that NextNav will use higher duty cycles because the service it envisions must satisfy the heavy demands of broadband in the Lower 900 MHz band. The consequence will be increased contention at the expense of other users of the Lower 900 MHz band, upsetting the balanced operating environment that the Commission has created that has allowed multiple operations to flourish in the band. ETC systems must have uninterrupted communications to be able to interrogate and identify transponders in vehicles as they travel at highway speeds. Tolling equipment is expected to operate with less than 5 misses in 10,000 transactions for all reasons, and NextNav's plan would undoubtedly degrade ETC system performance making this performance level impossible to attain. As noted above, the opportunity to make such communications work is extremely limited – just 80 milliseconds as the vehicle passes through the coverage area of the tolling system's antenna. High duty cycle interference will repeatedly interrupt those opportunities, resulting in missed tolling handshakes and disrupted E-ZPass transactions.

The deployments NextNav envisions would be much denser than current M-LMS systems. NextNav observes that it cannot provide its proposed level of service using its current spectrum holdings because "it is not economically feasible to deploy a widescale, standalone terrestrial PNT network,"[16] and so it seeks to attract interest from wireless broadband providers to develop a densified network in the Lower 900 MHz band to support the backup GPS service. As we understand it, the theory behind NextNav's plan would be that wireless broadband providers would blanket areas with Lower 900 MHz antennas to provide the largest coverage area possible to their customers. But wireless broadband customers want to operate in the same locations where tolling operations take place – namely in vehicles, and in buildings or facilities that are located near the tolling infrastructure, and as electronic tolling moves into congestion management, in urban areas too. This would create a head-on collision of ETC and NextNav users.

NextNav seeks to reduce the available spectrum for non-M-LMS uses, while increasing interference in that spectrum. NextNav has proposed retuning non-M-LMS devices that currently operate in 14 megahertz of spectrum to use the remaining 11 megahertz at 907-918

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[16] Petition at ii.

MHz.[17] Cutting back on the amount of spectrum available for non-M-LMS from 14 megahertz to 11 megahertz would leave insufficient bandwidth for ETC operations. It would reduce available spectrum to implement electronic tolling across multi-lane highways and disrupt tolling transactions with vehicles moving at highway speed, resulting in missed handshakes between readers and transponders, and missed transactions.

The proposal also fails to account for the increase in harmful interference within the proposed new non-M-LMS 907-918 MHz band. First, the NextNav plan would place 5G radios operating in the Lower 900 MHz band closer in proximity to toll equipment than is the case today for M-LMS equipment, including operating in vehicles during ETC events. The out-of-band transmissions of these devices would affect ETC by placing more RF energy directly into the band used by the tolling system. Because this energy is within the passband of the tolling system, there is no way to filter out that unwanted energy, and harmful interference will result. Increased noise levels within the tolling systems' operating frequencies cannot be filtered and will cause harmful interference.

Second, NextNav also proposes to remove the protections against unacceptable interference to unlicensed operations in the Lower 900 MHz band.[18] Multiple ETC systems use the band for unlicensed equipment, especially for services such as parking and access control, and their operations will be directly impacted. More broadly, stripping away those protections and deploying full-power operations in the M-LMS band will lead to increased noise and interference within the remining 11 megahertz of LMS spectrum, the non-M-LMS portion of the band. When faced with much higher levels of interference from NextNav's proposed broadband service, unlicensed devices will migrate to the quieter parts of the Lower 900 MHz band, namely the 907-918 MHz portion, thus increasing congestion and interference within that portion of the band. This will have a deleterious effect on electronic tolling, causing harmful interference between operators that previously were able to share the band without interference issues.

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[17] *Id*. at 31.

[18] NextNav Petition Supplement at A-6, A-11.

Further, NextNav has not addressed that some tolling protocols utilize equipment that use fixed frequencies and are not capable of retuning to new frequencies to avoid the harmful interference that would occur due to NextNav's proposed broadband service.

High noise levels will increase battery usage and deplete batteries much faster than anticipated under the current FCC rules. Given their widespread consumer and commercial uses in vehicles, electronic tolling transponders must be capable of several years of operation without battery replacement. Transponders are thus designed to enter "sleep" modes to preserve battery power and extend product lifetime. These transponders devices "wake up" when energy is detected within the channel, such as when approaching a toll plaza. The transponders then communicate with the reader, and, once the handshakes are complete, they return to sleep mode. This type of operation enables transponders to be used over a period of several years without having to replace or recharge the battery – as noted, many transponders are designed with a ten-year battery life.

The higher levels of energy in the band that would inevitably result from NextNav's proposal would dramatically increase these transponders' "awake" state, increasing battery draw and reducing transponder device lifetime. Replacement of transponder devices – nearly 59 million in the E-ZPass system alone – is logistically challenging, disruptive to consumers, and expensive, and those costs ultimately make services more expensive for consumers.

The use of the Lower 900 MHz band in mobile handsets themselves would greatly increase harmful interference to ETC systems as drivers often have their wireless handset nearby and just a meter from their E-ZPass transponder. NextNav has proposed that mobile and portable stations should be permitted to transmit up to 3 Watts ERP.[19] Even at typical handset power levels (*e.g.* 200 mW), drivers' mobile devices will cause harmful interference to their own transponders within their vehicles, to the roadway tolling equipment, and even to transponders located in vehicles in adjacent lanes.

B. NextNav's Interference to Electronic Tolling Will Cause Widespread Disruption and Substantial Disturbance to Consumers, Toll Agencies, and State and Local Governments.

E-ZPass has engaged with NextNav and its affiliates over the years, including assessment and testing of the previous Progeny system's effect on the E-ZPass system and in response to the NextNav Petition. We are deeply concerned that the NextNav proposal would cause tremendous upheaval within current E-ZPass systems and foreclose new ones. NextNav's proposal would produce so much spectrally adjacent and physically proximate high-power signals that it would undo the success that is electronic toll collection and upend Americans' seamless toll experience on U.S. roadways, harming drivers, businesses, and public agencies and governments, with substantial impact on the environment as well. At present, nothing in the NextNav Petition nor our recent conversations indicate that a meaningful protocol for co-existence will be technically or practically feasible.

The NextNav Petition asserts that, in the event there is an interference consequence, NextNav will consider "mitigation measures, including by paying for retuning or relocation."[20]

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[19] *Id*. at A-10.

[20] NextNav Petition at 31.

But retuning within the Lower 900 MHz band would be insufficient to ensure co-existence with nearby high-power network operations, and relocation to another band is infeasible and beyond NextNav's plan, as the *Public Notice* correctly observed that NextNav did not "indicate how relocation would be accomplished."[21]

In any event, it is worthy of note that the interference that NextNav's plan would cause is unmitigable within the band and, even if a solution were identified, it would generate massive widespread disruption involving replacement of electronic tolling systems, including the transponders in vehicles – nearly 59 million transponders just within E-ZPass system and upwards of 120 million nationally.[22] Such an effort to recall and replace transponders in vehicles would be prohibitively expensive, disruptive, and lengthy.

E-ZPass takes no position on the need for a terrestrial solution to backup GPS, but observes that there is no basis to assert that the Lower 900 MHz is uniquely situated as a technical matter for a terrestrial PNT system. There is no sound public policy rationale to move ahead with the NextNav request in light of the disruption it would cause.

V. CONCLUSION.

E-ZPass is providing important services to the public using non-M-LMS operations that would be imperiled by NextNav's proposal. The NextNav proposal risks significant harmful interference and disruption to E-ZPass systems, as well as hundreds of millions of other users of the Lower 900 MHz band. E-ZPass respectfully requests that the Commission deny the NextNav Petition.

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[21] *Public Notice* at 4.

[22] The State of California is currently transitioning electronic tolling systems, and it has been a costly effort in terms of both time and treasure. For example, California recently extended the transition date for the new interoperable ETC standard, adopted in 2019, from January 1, 2024 to January 1, 2027. *See* Caltrans, Automatic Vehicle Identification Systems for Electronic Toll Collection, https://dot.ca.gov/programs/traffic-operations/electronic-toll (last visited Sept. 3, 2024).

Respectfully submitted,

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